



## PROJECT DESCRIPTION

The Courthouse Commons Tunnel is located in downtown San Diego, California. The tunnel was built to allow the transfer of detainees between the existing County Central Jail Building and the newly constructed Central Courthouse. The pedestrian tunnel (or inmate transfer tunnel) is approximately 327 feet long, has been built using the Sequential Excavation Method (SEM), and is approximately 60 feet deep. The mining passes through the San Diego Fault, and the crown of the tunnel passes within approximately 10 feet below the foundations of the Old Courthouse and Old Jail.

## SIXENSE MONITORING SERVICES

Sixense was chosen by the Geotechnical Consultant, Kleinfelder, to implement a comprehensive automated monitoring program throughout the construction site that contains a variety of geotechnical, structural, and environmental instrumentation, including:

- 2 Cyclops Automatic Total Stations (ATS) required in the monitoring system to measure the ground and the structure displacements
- 6 MPBXS and 60 Settlement Monitoring Points composing the sub-surface instrumentation
- 39 Liquid Level Sensors were installed due to the proximity of the excavations to the occupied buildings to control the differential settlements impacting the affected structures
- A network of 6 Automated Vibrating Wire Piezometers in place to control the performance of the dewatering system
- 1 Noise & 1 Vibration Monitor
- 1 Geoscope (our web-based platform) was configured to generate automatic settlement contour of the excavation, track the mining progress, and send automatic alerts when limit values were exceeded

## PROJECT COMPLETION

For over two years, the platform was able to deliver more than 10,000 values of data in near real-time. Sixense is proud to have been part of the successful team of professionals involved in The Courthouse Commons Tunnel. The project won several awards for engineering excellence, and construction was completed in 24 months (on schedule).

 2019 - 2022

 Kleinfelder  
County of San Diego

**2**  
Cyclops ATS

**6**  
MPBXS

**60**  
Settlement Monitoring Points

**39**  
Liquid Level Sensors

**6**  
Automated VW Piezometers

